

Fig. 14. *Puchastrella stelletodes*, n. sp. *a*, large smooth body-acerate; *b*, quadriradiate spicule of surface; *c*, small microspined acerate of the crust or surface; *d*, minute sceptrella (all magnified to the scale of 1-48th to 1-1800th inch); *e*, small microspined acerate, and *f*, sceptrella, respectively more magnified, to show their detail; *g*, large smooth body-acerate of the natural length.

XXXVI.—On three new Species of *Gonepteryx* from India, Japan, and Syria. By ARTHUR G. BUTLER, F.L.S. &c.

IN a collection from the North-west Provinces recently presented to the Museum by J. F. Duthie, Esq., I find an interesting new species of the genus *Gonepteryx*.

To those lepidopterists who regard the whole genus as consisting of one extremely variable and widely distributed species this unexpected novelty will doubtless be nothing more than another example of what they inaccurately call local varieties; to me it is a local form, and therefore a true species of the only kind existing in the Lepidoptera. I propose to call it *G. carnipennis*.

G. carnipennis belongs to the *ramni* group; and before pointing out how it differs from its two nearest allies, *G. ramni* of Europe and *G. nepalensis*, I may mention that I have before me specimens of the following species:—

G. ramni, *G. nepalensis*, *G. cleopatra*, *G. maderensis*, *G. cleobule*, *G. farinosa*, *G. aspasia*, and *G. zaneka*, besides two other species which are at present unnamed in our collection and hitherto undescribed.

Gonepteryx nepalensis was originally separated from *G. ramni* by Mr. G. R. Gray as a mere variety of the latter; but subsequently, in the 'Genera of Diurnal Lepidoptera,' p. 71, it was named by Edward Doubleday. Neither of these gentlemen, however, mentioned any character by which it could be distinguished from *G. ramni*. The following synopsis will readily separate the three species:—

a. Wings above in male yellow, in female greenish white.

1. Wings of both sexes with ill-defined marginal brown points; upper surface of male of a deep sulphur-yellow colour; secondaries of female decidedly greenish; wings below with *costal area of primaries and whole of secondaries decidedly greenish*..... *G. ramni*. Europe.

2. Wings of both sexes with well-defined, partly confluent, marginal brown points; upper surface of male gamboge-yellow, of female creamy white, hardly greenish even on the secondaries; wings below with *costal area of primaries and whole of secondaries whitish*. *G. nepalensis*. India.

3. Wings of male with marginal brown points well defined and partly confluent; upper surface deep gamboge-yellow; orange spot on secondaries very large (twice as large as in allies); wings below with *costal area of primaries and whole of secondaries flesh-pink* *G. carnipennis*. N.W. India.

Gonepteryx carnipennis, sp. n.

Wings above apparently broader than in *G. nepalensis*, owing to the apex being less produced; decidedly deeper in colour, and with a very large orange spot at the extremity of the discoidal cell of secondaries: primaries below sulphur-yellow, with the costal third flesh-pink; marginal black dots at extremities of veins; fringe at apex rose-red; a brown spot at end of cell as usual: secondaries flesh-pink; the sub-costal vein broadly pale sulphur-yellow, as also the termination of the median vein; a large rounded purplish-grey spot at end of cell; fringe rosy at extremities of veins. Expanse of wings 67 millim.

Káli valley, 9000–10,000 feet (*J. F. Duthie*).

The following species from Japan and China is intermediate between the two groups in the genus, the *G. rhamni* and *G. zaneka* groups; though nearest to *G. rhamni*, with which it has been confounded by H. Pryer and others, it has features distinctly linking it to the *G. zaneka* group.

Gonepteryx maxima, sp. n.

The largest species yet described; the primaries well produced at apex as in *G. aspasia*; the primaries of male not quite so deeply coloured as in that species, though much more so than in *G. nepalensis*; the primaries a little deeper coloured than the secondaries and with confluent red-brown marginal spots (as in *G. nepalensis*), a character not found in *G. aspasia*; orange spot of secondaries nearly as large as in *G. carnipennis*; costal area of primaries and whole of secondaries below greenish white; female greenish white, uniformly coloured. Expanse of wings 78 millim.

♂, Nikko; ♀, N. China.

From *G. nepalensis**, to which this species is most nearly allied, it differs in its decidedly darker primaries, its more falcate, more elongated, and altogether larger wings, and the (consequently) larger orange spots on the wings, also in the less sinuous outer margin of the secondaries: from *G. aspsia*, to which most of these very characters prove its affinity, it differs in its slightly paler primaries and darker secondaries; the brown edging to the wings and the distinct separation of the under surface into two colours, as in the *G. rhamni* group.

The following species was captured on Mount Tabor by B. Lowne, Esq. :—

Gonepteryx antonia, sp. n.

Nearest to *G. cleopatra*, of the same brilliant yellow above, but with the large diffuse orange patch on the primaries replaced by a much paler diffused saffron-yellow nebula, and not extending so near to the margins. Under surface almost as uniformly coloured as in *G. rhamni*, whereas in *G. cleopatra* the costal area of primaries and the secondaries are of a chalky greyish-green tint. Expanse of wings 62 millim.

Mount Tabor, Syria. B. M.

This species must be placed between *G. rhamni* and *G. cleopatra*.

XXXVII.—*New Genera and Species of Fossil Cockroaches from the Older American Rocks.* By SAMUEL H. SCUDDER†.

SINCE the publication of my essay on Palæozoic cockroaches ‡, a considerable number of new types of Palæoblattariæ have come to hand, largely through the endeavours of Mr. R. D. Lacey, to whose favour I owe the opportunity of studying them, and partly from my exploration of an interesting locality in South Park, Colorado. Some of the former have since been published in a revision of the species of *Mylacris* §, and the more interesting of such as remain are described in this paper.

The two new genera of Mylacridæ are closely allied to, but differ considerably from, the known genera. Of the Blattinariæ, the species of *Oryctoblattina* is the first secured from

* I originally recorded the male under this name, not having placed it side by side with the Indian species; it is doubtless a similar omission which has led Mr. Pryer to regard it as *G. rhamni*.

† From the 'Proceedings of the Academy of Natural Sciences of Philadelphia,' March 10, 1885, pp. 34-39.

‡ Mem. Bost. Soc. Nat. Hist. iii. pp. 23 et seq.

§ *Ibid.* iii. pp. 299 et seq.